

## Description of two new species of *Amphidromus* from Sumatra, Indonesia (Gastropoda:Pulmonata:Camaenidae)

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KEY-WORDS: Camaenidae, Indonesia, *Amphidromus* n. sp.

### INTRODUCTION

In 1986 and 1988, two tree snail species of *Amphidromus* s.s. were collected in Sumatra. The first species differs from other species of *Amphidromus* from Sumatra in having a yellowish-orange band at the apertural edge, and the second in having a purplish dark brown parietal wall. Both of them also are different from several other species of *Amphidromus*; a total of 5 species of *Amphidromus* s.s. are now recorded in Sumatra island, the three other ones are *A. (A.) inversus* Müller, 1774; *A. (A.) palaceus* Mousson, 1848 and *A. (A.) peversus* Linné, 1758 (VAN BENTHEM JUTTING, 1959).

### Abbreviations

MZB - Museum Zoologicum Bogoriense, Bogor, Indonesia

ZMA - Zoölogisch Museum, Universiteit van Amsterdam, Netherlands

SMF - Forschungsinstitut Senckenberg, Frankfurt, Germany

sin. - sinistral

dex. - dextral

### *Amphidromus (Amphidromus)*

#### *djajasmitai* n.sp.

Figs 1,2,3,4.

**Material studied.** Bengkuntat 5° 37' S - 104° 18' E: holotype, MZB no.Gst.9462; 4 paratypes, MZB no.Gst.9463; 2 paratypes, ZMA Moll. no. 3.93.026; 2 paratypes, SMF

no. 309926; 3 paratypes, author coll. Marang Ulu 5° 24' S - 104° 4' E: 3 paratypes, MZB no.Gst. 9464. Way Jambu, North of Marang 5° 22' S - 104° 2' E: 3 paratypes, MZB no. Gst.9465. Sumur Tujuh near Kota Agung 5° 28' S - 104° 29' E: 3 paratypes, MZB no. Gst. 9466.

**Type locality.** Bengkuntat, Lampung, Sumatra, Indonesia, 5°37' S - 104°18' E, on tree.

**Description.** Shell relatively small, up to 42.2 mm; dextral or sinistral; ovate-conical. Rather thin and transparent, smooth, polished.

Shell yellow, sulphur-yellow or greenish-yellow with narrow white subsutural band, becoming broader towards apex. Grey colour occasionally present below subsutural band on several earlier whorls. One or more transparent yellow spiral lines may be present on last and penultimate whorls. Apex white, little obtuse, smooth and shining. Shell without varices; sculptured by fine radial striae and finer spiral striae. Whorls slightly convex, increasing regularly in size; last whorl high, about three quarters of shell height.

Aperture oblique, ovate, somewhat angular at its base, yellowish within. Yellowish-orange band at apertural edge and through outside. Peristome white, narrowly expanded, outer lip thickened, recurved. Parietal wall covered by thin translucent callus; usually thickened white at two ends, occasionally at margin. Columella vertical, rather thin and sharp. Umbilicus

closed, covered by thickened white, broadened and slightly twisted columellar side.

Dimensions: see table 1.

**Distribution.** Known only from some localities in Lampung Province, South of Sumatra. All material studied taken from relatively near sea level. Collected in the field, number of dextral and sinistral specimens relatively balanced with little dominant of sinistral forms from Bengkunt.

**Habitat.** Living on trees, at Way Jambu on coffee trees. Animal buff tawny, with purplish-grey or brownish-grey tentacles and head, foot fringe white.

**Remarks.** Distinctive characters of *Amphidromus djajasasmitai* are: small for the subgenus, amphidromine, yellow shell without varices, recurved lip, closed umbilicus type, last whorl high with yellowish-orange band at apertural edge.

*Amphidromus alticola* Fulton, 1896 may be confused with *A. djajasasmitai*, but *A. alticola* has a comparatively more thin shell; thin lip, not or very little reflected and no yellowish-orange band at its apertural edge. *A. alticola* lives in mountains of West Java, 1400-2000 m (VAN BENTHEM JUTTING, 1949-1950 ), and hasn't been recorded in Sumatra. *A. djajasasmitai* lives in Lampung Province, South of Sumatra.

*Amphidromus palaceus* var. *tener* Martens, 1867 from West Java and *A. peversus peversus* Linné, 1758 from Sumatra, Java, Borneo, Celebes, Bali, in some their satellite islands are quite similar to *A. djajasasmitai*. Generally, they are different in having a larger, white callus, and no yellowish-orange band at the apertural edge. *A. palaceus* var. *tener* has a perforate or closed umbilicus and stronger radial striae. *A. peversus peversus* is thicker than *A. djajasasmitai*, has no white subsutural band and usually has a white aperture, a varix on the last or penultimate whorl, a black-brown edge behind the peristome and adnate outer lip.

**Etymology.** The species is named in honour of Mr. Machfudz Djajasasmita, Museum Zoologicum Bogoriense, Bogor, Indonesia.

*Amphidromus (Amphidromus) puspae*  
n.sp.

Figs 7,8,9,10.

**Material studied.** Rengas Ulu, Bangko: holotype, MZB no. Gst. 9467; 1 paratype, ZMA Moll. no. 3.93.027; 1 paratype, SMF no. 309927.

**Type locality.** Rengas Ulu, Bangko, Jambi, Sumatra, Indonesia, on tree.

**Description.** Shell moderately large, up to 59.4 mm; dextral or sinistral; high-conical. Thick, little or not transparent, smooth and polished.

Shell greenish-yellow or straw colour; later whorls ornated with irregular spaced radial brown and light brown lines, reaching the suture. Apex yellow, smooth and shining; earlier whorls yellow, paler below; white subsutural zone on later whorls. Whorls slightly convex, increasing regularly in size. Fine radial striae and weak spiral striae.

Aperture oblique, ovate, yellowish-white within. Parietal wall brown or purplish-brown, overlaid by darker marginal callus. Peristome white, thickened, expanded and little reflected. Columella vertical, dull brownish-purple externally around lower half of last whorl. Umbilicus closed or nearly closed.

Dimensions: see table 2.

**Distribution.** Known only from Rengas Ulu, Bangko, Jambi Province in Mid Sumatra.

**Habitat.** Living on trees, holotype on rubber tree.

**Remarks.** Other large and high-conical *Amphidromus* that resemble *Amphidromus puspae*, are the yellow *A.javanicus* Sowerby, 1841 from West Java, and *A.inversus inversus* Müller, 1774 from Malaya, Sumatra, some satellite islands are north of West Java. They are different in having a dull surface, and radial streaks or bars compared to the radial lines in *Amphidromus puspae*. *A. javanicus* has a white parietal callus and coarser radial striae. *A.inversus inversus* has a brown edged outer lip, a darker colour below the periphery, a light zone around the umbilicus and a dark brown parietal wall overlaid by a white marginal callus.

With their purplish-black parietal wall *A. janus* Pfeiffer, 1854, from Mergui Islands (Burma) and *A.atricallosus atricallosus* Gould, 1843 from Burma, Thailand, Malaya (LAIDLAW & SOLEM, 1961) are rather close to *A. puspae*. *Amphidromus janus* is smaller, the colour pattern is spirally oriented, while *A. atricallosus atricallosus* has more convex whorls and usually has one or more dark varices.

**Etymology.** Named for my wife, Puspa.

**Acknowledgements**

My sincere thanks to Mr.Machfudz Djajasmita and Mr. Roland Houart, for their suggestions, corrections and comments on the manuscript.

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**Table 1.** *Amphidromus (Amphidromus) djajasasmitai* n.sp. Size variation in 21 specimens. (11 sin., 10 dex.)

	mean	range	standard deviation
height (mm)	35.73	30.8-42.2	2.22
breadth (mm)	20.38	18.4-23.3	1.31
height of aperture (mm)	19.51	17.3-21.1	0.94
height of last whorl (mm)	26.31	23.0-28.7	1.37
h/b	1.757	1.60 - 2.08	0.106
ha/h	0.548	0.48 - 0.58	0.020
lw/h	0.737	0.69 - 0.78	0.024
number of whorls	5.583	5.25 - 6	0.175
perch angle (°)	28.95°	27° - 32°	1.112°

**Table 2.** *Amphidromus (Amphidromus) puspae*. Shell measurements.

	Holotype (MZB)	Paratype (ZMA)	Paratype (SMF)
height (mm)	59.4	53.5	53.9
breadth (mm)	28.3	27.1	27.4
height of aperture (mm)	27.4	27.1	26.5
height of last whorl (mm)	37.6	34.3	36.2
h/b	2.099	1.974	1.967
ha/h	0.461	0.507	0.492
lw/h	0.633	0.641	0.672
number of whorls	6.50	6.25	6.25
perch angle (°)	27	30	28
shape	sin.	dex.	sin.

**FIGURES** (opposite)1-4. *Amphidromus (Amphidromus) djajasmitai*

1-2. Holotype (MZB), h = 36.8 mm.

3-4. Paratype (ZMA), h = 34.5 mm.

5-6. *Amphidromus (Amphidromus) alticola* Fulton, 1896

(author coll.), Pangalengan, West Java, h = 34.1 mm.

7-10. *Amphidromus (Amphidromus) puspae*

7-8. Holotype (MZB), h = 59.4 mm;

9-10. Paratype (SMF), h = 53.9 mm.

11. Yellow *Amphidromus (Amphidromus) javanicus* Sowerby, 1841

(author coll.), Malimping, West Java, h = 57.8 mm.

12. *Amphidromus (Amphidromus) inversus inversus* Müller, 1774

(author coll.), Kotabumi, Lampung, South of Sumatra, h = 60.3 mm.

